REMARKS/ARGUMENTS

Prior to this Amendment, claims 1-46 were pending in the application.

Applicants filed a Notice of Appeal with a Pre-Appeal Brief Request for Review. Prosecution in the application was re-opened as a result of a Pre-Appeal Conference, and the Office Action mailed January 31, 2006 removes the finality of the prior Office Action but states no new reasons for rejection or otherwise progresses the case. Instead, the Office Action requests that the Applicants respond to the issues raised in the Advisory Action and the previous Office Action.

Claim 1 is amended to clarify that the unique identifiers are selected to be smaller in size than the digital sequence they represent to significantly decrease the bandwidth required to perform a data transmission from a transmitting system to a receiving system.

Independent claim 29 is amended to include the limitations of dependent claim 30, which is cancelled.

Independent claim 39 is amended to include the limitations of dependent claim 40, which is cancelled, and to clarify the subject matter of the invention. Dependent claims 41-43 are amended to correct dependency and antecedent basis. Dependent claims 47 and 48 are added to further protect concepts of the invention not shown by the cited reference.

No new matter is added with support found at least in the Summary and the figures of the specification. After entry of the Amendment, claims 1-29, 31-39, and 41-48 remain for consideration by the Examiner.

Rejections under 35 U.S.C. §103

In the January 31, 2006 Office Action, the rejection of claims 1-46 under 35 U.S.C. §103(a) as being unpatentable based upon "Generic Diff Format Specification" (available at http://www.w3.org/TR/NOTE-gdiff-19970901) (hereinafter "the GDIFF reference" or "GDIFF"). This rejection is respectfully traversed.

In attempt to make significant progress in the prosecution of this application, it may be useful to first discuss Applicant's data transfer method and the GDIFF reference and its teachings in a more general manner before referring to the claims. A concise summary of Applicant's method is presented in the specification beginning at line 28 of page 31, and as can be seen, the method involves providing translation tables or lexicons at nodes or computer systems that are exchanging data over a network or communications link. The translation tables are used to store a data

element, such as a digital sequence or portion of a larger message, and to store a unique identifier corresponding to each sequence. The concise summary provided beginning at page 31 can be supplemented with the discussion provided with reference to Figures 3A-3L to understand the techniques used to transfer the unique identifier between the two nodes or systems when the tables are synchronized (i.e., both tables contain the identifier and the corresponding data element) rather than having to use network bandwidth to transmit the data element every time, with the data element typically only being transmitted when the tables are not yet synchronized.

In contrast, as noted at page 2, the "GDIFF format is primarily useful in applications which compute the differences between two versions of a file" and the "resulting differences can be stored in a file using the GDIFF format." The GDIFF format is said to be useful with any "file differencing algorithm" such as rsync. Then, on page 2, the GDIFF format is described as a "binary format" and on pages 3 and 4, the GDIFF reference describes the use of the GDIFF format and an input old stream and a new stream to prepare a "simple GDIFF file" by hand, with, as noted on page 4, the GDIFF file being larger than the new file" which may not always be the case. As will be seen from a description of the language of the pending claims, the GDIFF reference teaches a very different process than that is claimed by Applicant.

The difference between the claimed invention is apparent with reference to the language of independent claim 39. Initially, claim 39 is amended to replace the term "lexicon" with a table that is stored in memory. It seems in the past Office Actions and Amendments much time and confusion has been centered around this element of the claims. Claim 39 is amended to clarify that a lexicon may take many forms such as a table that includes a data element or digital sequence and a unique identifier that corresponds to the data element. An example of such a table or lexicon is shown in Figures 3A-3L (see element 306 which includes an identifier portion 308 and a data or digital sequence portion 310).

As called for in claim 39, the method includes "transmitting a first unique identifier from said first computer system to said second computer system in lieu of said corresponding digital sequence." The method further includes "comparing said first unique identifier to said contents of said second local table" and "requesting said first computer system to transmit said corresponding digital sequence to said first unique identifier if said first unique identifier is not present in said second local table."

The GDIFF reference fails to teach any of these three elements of the method of claim 39.

First, the first step calls for transmitting a first unique identifier from a first computer system to a second computer system. The GDIFF reference teaches the creation of a GDIFF file that is useful for showing the difference between an old and a new file. The GDIFF reference fails to teach that a unique identifier should be stored in a local table in the first computer and later transmitted to a second computer in lieu of a digital sequence that corresponds to the identifier. The Advisory Action in its second point asserts that the "difference between versions is an identifier" and that this difference is being transmitted in lieu of the data. Applicant disagrees that the GDIFF reference teaches storing a plurality of the differences in tables and also storing in the tables the old and new streams associated with these differences. Also, Applicant did not find a discussion in the GDIFF reference that the difference is transferred instead the only example is the generation of a GDIFF file using identified differences (such as those identified by rsync or the like) but there is no discussion that the differences are saved or linked to this GDIFF file or that the differences are transferred to a second system instead of the GDIFF file. Hence, the GDIFF reference fails to anticipate claim 39 because it fails to teach or suggest the transmitting element.

Further, and likely more clearly to the Examiner and others, the GDIFF reference fails to show comparing of the first unique identifier with the contents of the second local table. As noted above, the Advisory Action states that the differences determined in GDIFF are unique identifiers. If so, then, the GDIFF reference fails to show that these differences are compared to "contents of said second local table" as required in claim 39. The first point of the Advisory Action is that a lexicon is a broad term and the differences of the GDIFF reference and the various versions could fit the claimed definition. However, the specific language of claim 39 requires there be two tables storing digital sequences and unique identifiers associated with these sequences. The GDIFF reference fails to show a single table storing its versions and differences let alone a table at a second system, and after transmitting a first identifier, comparing that identifier to the contents of the second table. Specifically, there is no discussion in the GDIFF reference that it would be useful to transmit the difference to a second computer system in lieu of the old and new versions of data from which it was created (instead, it teaches creating a GDIFF file at a single

computer system). Hence, the GDIFF reference fails to teach the method of claim 39 for this additional reason.

Yet further, and even more clearly, the GDIFF reference fails to teach that if the first unique identifier is not present in the second table, the method should include "requesting said first computer system to transmit said corresponding digital sequence." If the unique identifier is the differences between the new and old version, there is no teaching in GDIFF of requesting that the first computer system transmit the new and old versions of a stream when it does not have the differences. If, instead, the GDIFF file were said to be the unique identifier, there is likewise no teaching that a first computer system would transmit the new and old versions of a stream when the GDIFF file was not present in a second computer system's table. The first Office Action mentions the DATA and COPY commands but these do not provide teaching for the transmitting, comparing, and requesting functions of claim 39. For these reasons, claim 39 is believed allowable over the GDIFF reference.

Claims 41-46 depend from claim 39 and are believed allowable over the GDIFF reference at least for the reasons provided for allowing claim 39. Claim 41 further calls for the first computer system to transmit the digital sequence corresponding to the first unique identifier when it is "aware that said second local table does not contain said unique identifier." There is no discussion in the GDIFF reference of one computer system being aware of the contents of the another computer system's local table or having a unique identifier (i.e., following the Examiner's arguments where does GDIFF teach that one computer system is aware that another has a particular difference?). Claim 44 requires that the unique identifiers be based on "a hash of said corresponding digital sequence." The first Office Action on page 5 refers to GDIFF not teaching "sequence" but refers to random accessing of new and old versions, but this has nothing to do with using hashes of a digital sequence as a unique identifier. Applicant could find no specific citation for rejecting the idea of using an identifier based on a hash of a digital sequence. For these separate reasons, claims 41 and 44 are believed allowable over the GDIFF reference.

Turning now to claim 29, this independent claim is directed to a system with similar limitations to the method of claim 39. Hence, the reasons provided for allowing claim 39 over the GDIFF reference are believed equally applicable to claim 29. Further, claim 29 calls for the second computer system to compare the first

unique identifier to contents of its second local lexicon and request that the first computer system transmit the corresponding digital sequence if it is not present in the second lexicon. The GDIFF reference fails to discuss to cooperative computer systems, and it does not suggest that a second computer system would compare a received unique identifier to contents of a lexicon or translation table to decide if it needs to request that the corresponding digital sequence be transmitted. An example of this process is shown in Applicant's Figures 3H to 3J, and Applicant could find no similar teaching or discussion in the GDIFF reference. For these reasons, the GDIFF reference does not support an anticipation rejection of claim 29.

Claims 31-38 depend from claim 29 and are believed allowable at least for the reasons for allowing claim 29. Further, claim 31 includes limitations similar to claim 41 and is believed allowable for the reasons provided for allowing claim 41. Claim 36 includes limitations similar to claim 44, and the reasons for allowing claim 44 are applicable to claim 36.

Independent claim 1 calls for, among other things, a transmitting system comprising a first lexicon including a plurality of digital sequence with unique corresponding identifiers, with the digital sequence being greater in size than the corresponding unique identifier. This feature of claim 1 is not shown or suggested by the GDIFF reference. The GDIFF reference teaches the creation of a GDIFF file that has a particular format but not a particular size. For example, the example provided and summarized on page 4 of the GDIFF reference teaches a GDIFF file created from a differences and new and old streams as being larger than the new stream. Hence, the GDIFF reference does not teach a method of using unique identifiers that can be provided in a first lexicon that is smaller in size than the data or digital sequence they are used to represent or that they correspond to. For this reason alone, claim 1 is not anticipated by the GDIFF reference, and Applicant requests that the rejection based on this reference be withdrawn.

Additionally, Applicant would like to present, for completeness, arguments provided in prior responses and in the Pre-Appeal Brief Request for Review.

> "A 'lexicon' as used in claim 1 comprises an association of digital sequences to unique identifiers, for instance, a set of files with a set of unique file names for each file. The lexicon has a plurality of digital sequences, and each digital sequence corresponds to a unique identifier. The lexicon is not, as alleged in the office action, a data format that captures the difference

between two files. A particular member of the lexicon may represent a file that is itself a difference between two files, however, the lexicon itself does not capture the difference between files...the lexicon simply stores the association of digital sequences with unique, corresponding identifiers.

The Gdiff file is not a lexicon. The Gdiff file has only one part, a difference file. This one part file may contain a digital sequence, but does not correspond to any unique identifier. The difference file itself is not equivalent to the claimed unique identifier because, if for no other reason, there is not indication that the difference file is unique. There is no hint or suggestion to represent this difference file with a unique identifier.

In an important sense, Gdiff functionality is opposite that of the system of claim 1. Gdiff assumes a situation in which the transmitter and receiver already possess substantially identical copies of a particular file. Gdiff computes an algorithmic difference between a new version of the file and a previous version of the file, then transmits a digital sequence representing the difference. Assuming the new version is only incrementally different than the old version, the transmitted difference file may be smaller than the new version itself. However, Gdiff must transmit the entire digital sequence of the difference file because it contains precisely the information that is not known to the receiver.

In contrast, the system of claim 1 transmits a unique identifier in lieu of the digital sequence. If the invention of claim 1 were applied to solve the Gdiff problem, the unique identifier may correspond, for example, to all or part of the updated file, *or* to all or part of the difference file. The system of claim 1 is not required to compute a difference function, but it is not prohibited from so doing. In fact, in some cases it may be more efficient to transmit unique identifiers corresponding to the entire updated file rather than the differences because unique identifiers can represent arbitrarily large digital sequences. In any case, the unique identifier of claim 1, which may be significantly smaller than either the updated file or the difference file in Gdiff, is transmitted in lieu of the corresponding digital sequence itself. For at least these reasons claim 1 is allowable over the relied on reference.

In the Pre-Appeal Brief Request for Review, Applicant also noted:

This rejection was maintained in the September 8, 2005 Advisory Action, and reviewable issues include whether the office action states that 1) the Gdiff reference does not show a lexicon; 2) the Gdiff reference teaches something opposite the claimed lexicon; 3) the digital sequence contained in the Gdiff file does not correspond to the claimed unique identifier; 4) Gdiff is not a method for symbolic exchange. In each of these four issues the advisory action responds not with an answer, but with a question. Moreover, the advisory action appears to agree with Applicant's position in some cases.

The rejection of claim, for example, is based on some unstated definition of the word "lexicon". Although the office action suggests that a broader definition is appropriate, no actual definition is put forth. A "lexicon" as used in claim 1 comprises an association of digital sequences to unique identifiers. Irrespective of the breadth that can be given the term "lexicon", claim 1 itself provides a more specific meaning and context to the term lexicon that cannot be ignored. Specifically, the lexicon in claim 1 has a plurality of digital sequences, and each digital sequence corresponds to a unique identifier. The advisory action responds to this reasoning with questions such as "does the Gdiff reference not show a lexicon?" and "Is this a lexicon?" in combination with general statements of policy underlying patent law. It remains unclear just what part of Gdiff is considered to be a lexicon, and what part of Gdiff is considered to be a unique identifier and what part of Gdiff is considered to be the digital sequence. A pre-appeal review can help clarify these issues before they are presented to the Board.

The Advisory Action poses more questions than it answers. Quite literally. The Advisory action asks "does the Gdiff reference teach something opposite the claimed lexicon?" The advisory action continues to ask "does the digital sequence contained in the Gdiff not correspond to the claimed unique identifier? Perhaps this is so." Finally, the Advisory Action ponders "is Gdiff not a method for symbolic exchange? What is symbolic?" These questions are substitutes for reasons for rejections under 35 U.S.C. 102 and/or 103."

The Office Action states that prosecution is reopened to allow Applicant to address the questions raised in the Advisory Action. However, it is the Examiner's duty to state a rejection under 35 U.S.C. §103, and this burden is not met with open

ended or rhetorical questions as provided in the Advisory Action. In other words, the Examiner cannot place the burden for making a case for an obviousness rejection upon the Applicant. Hence, the Applicant requests that the rejection of claim 1 be withdrawn for these additional reasons or to address each argument made by Applicant including making it clear which feature of the GDIFF reference teaches or suggests each element of claim 1.

Claims 2-14 that depend from claim 1 are allowable for at least the same reasons as claim 1 from which they depend as well as the unique limitations presented in those dependent claims. Additionally, claim 5 includes limitations similar to claim 41 and is believed allowable for the reasons provided for claim 41. Claim 8 calls for a digital sequence to be "factored into a number of digital sequence chunks for which corresponding unique identifiers are ascribed." If the differences between an old and new stream are considered unique identifiers in GDIFF, the limitations of claim 8 are not shown because the differences are not ascribed to factored chunks of a digital sequence but are instead only portions of a stream that differ between the old and new. So, if only differences are transmitted, this would not be useful for representing a digital sequence – unless the old version is also transmitted or available and a means is provided for recreating the new version, which is different process than called for in claim 8. For these additional reasons, claims 5 and 8 are believed allowable over the GDIFF reference.

Independent claim 15 calls for, among other things, providing a transmitting system comprising a first lexicon including a plurality of digital sequence with unique corresponding identifiers. Claim 15 further calls for transmitting a unique identifier to a receiving system in lieu of a digital sequence corresponding to the transmitted identifier. At least these features of claim 15 are not shown or suggested by the relied on reference, and the reasons for allowing claims 1, 29, and 39 are believed applicable to the method of claim 15.

Claims 16-28 that depend from claim 15 are allowable for at least the same reasons as claim 15 from which they depend as well as the unique limitations presented in those dependent claims. Claim 19 is further believed allowable for the reasons provided for claim 41, and claim 22 is believed allowable for the reasons provided for claim 8.

Conclusions

In view of all of the above, the claims are now believed to be allowable and the case in condition for allowance which action is respectfully requested. Should the Examiner be of the opinion that a telephone conference would expedite the prosecution of this case, the Examiner is requested to contact Applicants' attorney at the telephone number listed below.

Any fee deficiency associated with this submittal may be charged to Deposit Account No. 50-1123.

Respectfully submitted,

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Kent A. Lembke, Reg. No. 44,866
Hogan & Hartson LLP
One Tabor Center
1200 17th Street, Suite 1500
Denver, Colorado 80202
(720) 406-5378 Tel
(303) 899-7333 Fax